## **Remedial Action Contract**

U.S. EPA Contract No.: EP-W-09-002

# Remedial Action - Phase III (Southern Extraction Wells Installation)

Work Assignment No: 023-RARA-02PE

Old Roosevelt Field Contaminated

**Groundwater Area Site** 

**EPA Remedial Project Manager: Sherrel Henry** 

CDM Smith Site Manager: Thomas Mathew, P.E.

Prepared for: U.S. Environmental Protection Agency Region 2 290 Broadway New York, New York 10007-1866

Prepared by: CDM Federal Programs Corporation 14 Wall Street, Suite 1702 New York, New York

# Bi-Weekly Progress Report No. 8 Phase III - Southern Extraction Well Installation

### 1.0 Introduction

Pursuant of the Work Assignment Form (WAF) Statement of Work (SOW), for Region 2 Contract EP-W-09-002 Work Assignment 023-RARA-02PE, CDM Federal Programs Corporation (CDM Smith) is performing the Phase III (Southern Extraction Well Installation) Remedial Action (RA) at the Old Roosevelt Contaminated Groundwater Area Site, Garden City, New York. The Bi-Weekly Progress Report is intended to partially fulfill the requirements specified under WAF SOW for this assignment. The Phase III work was completed on April 4, 2013 and this Bi-Weekly report is prepared for the work performed from March 11, 2013 to April 4, 2013.

The primary responsibility of CDM Smith personnel was to conduct the quarterly sampling event, oversee investigation derived waste (IDW) handling and supervise the gravel roadway completion.

The work completed during this reporting period includes: investigation derived waste (IDW) handling, the 1st quarter groundwater sampling event, including a round of water level measurements, and gravel roadway completion. This work is summarized in further detail below. A list of the supporting documentation attached with this bi-weekly progress report is as follows:

- Attachment 1 CDM's Daily Status Report
- Attachment 2 CDM's Field Log Book notes
- Attachment 3 Water Level Measurement Data Sheets
- Attachment 4 Water Level Measurement Table
- Attachment 5 Groundwater Sampling Data Sheets
- Attachment 6 Chain-of-Custody Documents
- Attachment 7 Photographic Log

### 2.0 Personnel On-Site

The following personnel were on site during this reporting period:

### CDM Smith - Contractor

Mike Ehnot Project Geologist

Ali Rahmani Engineer

Jessica Bennett Groundwater Sampling Data Manager

## Earth Data Northeast-Westbay Well Sampling Subcontractor

Trevor McMullen

# Seacoast Environmental Services-Investigation Derived Waste Subcontractor

Tank Cleaning Crew

## Uni-Tech Drilling Company (UTD)-Gravel Roadway Construction

**AGL Contracting Crew** 

## 3.0 Summary of Work Performed

The following is a brief summary of the field activities performed during this reporting period (refer to Attachment 1 through Attachment 7 for the Daily Status Reports, field logbook notes,

water level data sheets, water level measurement table, groundwater sampling data sheets, chain-of-custody records and photographic log, respectively):

- Investigation Derived Waste (IDW) Handling
  - ➤ Sludge IDW Handling
    - Seacoast removed the sludge IDW inside the five water IDW tanks using a vacuum truck and tanker truck, on March 12, 2013 and March 18, 2013.
       Approximately 6,866 gallons of sludge IDW was transported to ERC in Lancaster, PA, for disposal.
  - Water IDW Tank Cleaning
    - Seacoast washed the interior of the water IDW tanks, prior to demobilization.
  - ➤ Tank Removal
    - Seacoast removed the water IDW tanks from the premises on March 26, 2013 and March 28, 2013.
- 1st Quarter Groundwater Sampling Event
  - Water Level Measurements
    - CDM obtained water level measurements from 12 Westbay wells (SVP-1 through SVP-11, SVP-14), using Westbay equipment, and 8 conventional wells (GWX-10019, GWX-10020, MW-1I, MW-1S, MW-2I, MW-2S, MW-3I and MW-3S), on March 28, 2013.
  - Groundwater Sample Collection
    - CDM collected a total of 17 groundwater samples, including quality assurance/quality control (QA/QC) samples, for volatile organic compound (VOC) analysis on March 27-28, 2013. Groundwater samples were shipped to DESA laboratory via overnight courier service.
    - Groundwater samples were obtained from multiple ports at 2 Westbay wells (SVP-4 and SVP-10) and 3 conventional wells (GWX-10019, MW-1I and MW-1S), using Westbay sampling equipment and low flow sampling techniques, respectively.
    - For QA/QC purposes, a total of 1 duplicate samples plus 2 trip blanks and 2 field blanks were collected. A trip blank and field blank sample were obtained for each day of sample collection.
- Extraction Well Area Restoration Gravel Roadway Completion
  - ➤ Gravel Road and Extraction Well Pad Area Construction
    - The UTD subcontractor constructed 15 feet wide access road from FedEx entrance to the extraction wells and 25 feet by 50 feet pad area around extraction wells using 1 to 1-1/2 inch stone (coarse aggregate #2). The subgrade was compacted before placement of coarse aggregate.
  - Topsoil and Seeding
    - Temporary gravel road and extraction well pad area outside the newly constructed access road and pad area, as described above, was removed by the UTD subcontractor. All the recycled concrete aggregate (RCA) and geotechnical fabric at specified locations adjacent to the roadway and the southern extraction well pad were removed. Topsoil was added, as needed, and was graded and raked to prepare for seeding.

- Health and Safety
  - > CDM Smith conducted a daily Health and Safety meeting at the onset of each day.

## 4.0 Problems/Corrective Action

- On March 12, 2013, Seacoast could not remove the sludge IDW inside three water IDW tanks because it would clog the tanker truck. Seacoast returned with a vacuum truck to remove the sludge IDW on March 18, 2013.
- Seacoast could not remove the water IDW tanks on March 26, 2013, due to soft ground caused by rain. The truck became stuck in the mud and had to be towed out. On March 28, 2013, Seacoast returned to the site for tank removal.

## 5.0 Deviations

None noted for this period.

## 6.0 Conclusions

All RA construction work was completed in general accordance with RA Subcontract Documents and approved construction submittals.

ATTACHMENT 1
DAILY STATUS REPORTS

# **Daily Status Report**

PROJECT: Old Roosevelt Field Site
Remedial Action

Date: \_\_3-12-13

Day: 76 (Tuesday)

WEATHER: Raining & Cold

TEMP: 35/40 WIND: \_\_\_\_

Demobilization

### **PERSONNEL ONSITE**

CDM Smith: Mike Ehnot

Uni-Tech: Butch Hitzelberger (Driller); Brad Barnes (Helper)

### **VISITORS**

TIME	NAME	REPRESENTING	REMARKS
7:00	Tank Cleaning Crew	Seacoast	Clean out Alder tanks

### **EQUIPMENT IN USE:**

Adler Tank #A1241 @ Staging Area (November 30, 2012-Present) [~2,400 gallons]

Adler Tank #A2122 @ Staging Area (February 18, 2013-Present) [~254 gallons]

Adler Tank #A2043 @ Staging Area (February 18, 2013-Present) [~254 gallons]

Adler Tank #A2878 @ Staging Area (February 20, 2013-Present) [Empty]

Adler Tank #A2031 @ Treatment Building (February 18, 2013-Present) [Empty]

### CONSTRUCTION ACTIVITIES COMPLETED AND/OR IN PROGRESS:

- -UTD disassembles fencing, loads equipment onto support truck and transports equipment offsite. Additionally, the rental company removes the backhoe from the premises.
- --Seacoast pumps sludge IDW from Alder Tank #2878 and Adler Tank #2031 then cleans out and washes tank interiors. Sludge IDW and rinsate water are pumped into a tanker truck. Subsequently, Seacoast transports approximately 2300 gallons of sludge IDW to Environmental Recovery Corporation of PA for disposal.

### WORK BEING INSPECTED:

NΑ

## JOB SAFETY. INDICATE WHAT WAS CHECKED, RESULTS, AND CORRECTIVE ACTIONS TAKEN:

Daily tailgate Health & Safety meeting Topic: Distractions

## **TESTING PERFORMED:**

### PROBLEM/DELAYS/CORRECTIVE ACTION TO BE TAKEN:

Sludge IDW inside Adler Tank #1241, Adler Tank #2122 and Adler Tank #2043 could not be removed because the tank bottoms are dry sand. The sand could not be placed into the tanker truck. Consequently, the contents of these Adler tanks were not removed and their tank cleaning was postponed. Therefore, Seacoast will mobilize and utilize a vacuum truck to pump out the sludge IDW from the Adler tanks next week then proceed with tank cleaning.



# **Daily Status Report (Continued)**

PROJECT: Old Roosevelt Field Site

GREEN REMEDIATION PRACTICES IMPLEMENTED AND QUANTITIES TRACKED:
COMMUNICATION WITH CONTRACTOR STAFF:
MEETING:
ADDITIONAL ACTIVITIES AND REMARKS:
By: Mike Ehnot
Title: Geologist



# **Daily Status Report**

PROJECT: Old Roosevelt Field Site Remedial Action

				Raining & Cold 35/40
		Demobilization		
PERSON	NNEL ONSITE			
		VISITORS		
TIME	NAME	REPRESENTING	REMARKS	<u> </u>
7:00	Tank Cleaning Crew	Seacoast	Clean out	Alder tanks
Seacoa interiors. gallons o	Sludge IDW and rinsate water are part of sludge IDW to Environmental Reco	D AND/OR IN PROGRESS: ank #1241, Adler Tank #2122 and Adle pumped into a tanker truck. Subseque overy Corporation of PA for disposal.		
WORK B	BEING INSPECTED:			
	FETY. INDICATE WHAT WAS CHE gate Health & Safety meeting Topic:	ECKED, RESULTS, AND CORRECTIVE NA	VE ACTIONS TAKE	N:
JOB SAF Daily tail			VE ACTIONS TAKE	:N:
JOB SAI Daily tail	gate Health & Safety meeting Topic:	: NA	VE ACTIONS TAKE	:N:



Date: <u>3-18-13</u> Day: 77 (Monday)

# **Daily Status Report (Continued)**

PROJECT: Old Roosevelt Field Site

COMMUNICATION WITH CONTRACTOR STAFF:
MEETING:
ADDITIONAL ACTIVITIES AND REMARKS:
Seacoast will remove the five Adler tanks from the premises in the near future.
By: Mike Ehnot
Title: Geologist



# **Daily Status Report**

PROJECT: Old Roosevelt Field Site Remedial Action

			WEATHER: Sunny & Mild TEMP: 35/50 WIND:
		1 <sup>st</sup> Quarter Groundwater Sampling Ev	vent
	NEL ONSITE		
CDM Smith	n: Mike Ehnot, Jessica Ber	nett	
Earth Data	: Trevor McMullen		
		VISITORS	
TIME	NAME	REPRESENTING	REMARKS
FOLUDATE	NT IN USE:		
EQUIPME	NI IN USE:		
CONSTRU	ICTION ACTIVITIES COM	PLETED AND/OR IN PROGRESS:	
are collecte	ed at GWX-10019, via low 17 groundwater samples w	r Groundwater Sampling Event 2013 with assis flow sampling methods, and at SVP-4 and SVI ere shipped via FEDEX overnight courier to DI	stance from Earth Data. Groundwater samples P-10 using Westbay well sampling equipment. ESA laboratory for volatile organic compound
WORK BE	ING INSPECTED:		
NA			
	TY. INDICATE WHAT WA te Health & Safety meeting	AS CHECKED, RESULTS, AND CORRECTIVE TOPIC: Route to Hospital	E ACTIONS TAKEN:
TESTING	PERFORMED:		
PROBLEM	I/DELAYS/CORRECTIVE	ACTION TO BE TAKEN:	
GREEN RI	EMEDIATION PRACTICES	S IMPLEMENTED AND QUANTITIES TRACK	ŒD:
COMMUNI	CATION WITH CONTRAC	CTOR STAFF:	



Date: <u>3-27-13</u>
Day: 78 (Wednesday)

# **Daily Status Report (Continued)**

PROJECT: Old Roosevelt Field Site

14===010	
MEETING:	
ADDITIONAL ACTIVITIES AN	ID REMARKS:
rainfall and had to be towed ou	#1241 on March 25, 2013; however, the truck got stuck in the muddy soft ground due to significant ut. Therefore, the remaining Adler tanks could not be removed from the premises due to the muddy duled Adler tank removal for March 28, 2013.
By: Mike Ehnot	
by. <u>Wike Lillot</u>	<del></del>
Title: Geologist	



# **Daily Status Report**

PROJECT: Old Roosevelt Field Site
Remedial Action

Date: 3-28-13		
Day:	79 (Thursday)	

WEATHER: Sunny & Mild

TEMP: 35/50 WIND: \_\_\_\_

## 1<sup>st</sup> Quarter Groundwater Sampling Event/Demobilization

### **PERSONNEL ONSITE**

CDM Smith: Mike Ehnot, Jessica Bennett, Ali Rahmani

Earth Data: Trevor McMullen

### **VISITORS**

TIME	NAME	REPRESENTING	REMARKS
7:00	Road Building Crew	UTD	Re-configure & erect gravel roadway

### **EQUIPMENT IN USE:**

Cat Model 966G Loader (5.5 cy)

Takeuch Model TL 240 Skid Steer Loader (1.5 cy)

Dynapac Compactor (5 tons)

### **CONSTRUCTION ACTIVITIES COMPLETED AND/OR IN PROGRESS:**

- -Seacoast removes empty Adler Tank #A2122, Tank #A2043 and Tank #A2878 from the southern extraction well location and Tank #2031 from the treatment building.
- -The UTD road building subcontractor removes the recycled concrete aggregate (RCA) and geotechnical fabric at specified locations; places topsoil along the access roadway and well pad; grades the access road with existing RCA; and compacts the roadway. CDM Smith supervises the gravel roadway construction activities.
- -CDM Smith conducts the 1st Quarter Groundwater Sampling Event 2013 with assistance from Earth Data. Groundwater samples are collected at MW-1I and MW-1S, via low flow sampling methods.
- -A total of 4 groundwater samples were shipped via FEDEX overnight courier to DESA laboratory for volatile organic compound (VOC) analysis.
- -CDM Smith performs a round of water level data collection at 20 wells, including 12 Westbay wells and 8 conventional wells.

### WORK BEING INSPECTED:

NA

JOB SAFETY. INDICATE WHAT WAS CHECKED, RESULTS, AND CORRECTIVE ACTIONS TAKEN:

Daily tailgate Health & Safety meeting Topic: Lift with Legs

TESTING PERFORMED:

PROBLEM/DELAYS/CORRECTIVE ACTION TO BE TAKEN:



# **Daily Status Report (Continued)**

PROJECT: Old Roosevelt Field Site

GREEN REMEDIATION PRACTICES IMPLEMENTED AND QUANTITIES TRACKED:
COMMUNICATION WITH CONTRACTOR STAFF:
MEETING:
ADDITIONAL ACTIVITIES AND REMARKS:
By: Mike Ehnot
Title: Geologist



# **Daily Status Report**

PROJECT: Old Roosevelt Field Site Remedial Action

			WEATHER: Sunny & Mild
			TEMP: 35/50
			WIND:
	1 <sup>st</sup> Quarter Gro	undwater Sampling Event/Gravel Roa	adway Construction
	. quarter ere	anamata Campinig Event Crave ites	
	IEL ONSITE		
CDM Smith	n: Mike Ehnot, Jessica Bennett, A	Ali Rahmani	
		VISITORS	
TIME	NAME	REPRESENTING	REMARKS
7:00	Road Building Crew	UTD	Re-configure & erect gravel roadway
Takeuch M Dynapac C	NT IN USE: 966G Loader (5.5 cy) odel TL 240 Skid Steer Loader ( ompactor (5 tons) CTION ACTIVITIES COMPLET		
construction	n activities.	oletes the gravel roadway construction.	CDM Smith supervises the gravel roadway  M Smith Edison warehouse.
WORK BE	ING INSPECTED:		
NA IOR SAFE	TV INDICATE WHAT WAS CH	ECKED, RESULTS, AND CORRECTIV	/E ACTIONS TAVEN.
	te Health & Safety meeting Topic		E ACTIONS TAKEN:
TESTING F	PERFORMED:		
DDODI EM	/DELAYS/CORRECTIVE ACTION	ON TO BE TAKEN:	
PROBLEM	DELATS/CORRECTIVE ACTION	ON TO BE TAKEN.	
GREEN RE	MEDIATION PRACTICES IMP	LEMENTED AND QUANTITIES TRACK	KED:
COMMINI	CATION WITH CONTRACTOR	STAFE:	
COMMINION	CATION WITH CONTRACTOR	JIAII.	



Date: <u>3-29-13</u> Day: 80 (Friday)

# **Daily Status Report (Continued)**

PROJECT: Old Roosevelt Field Site

Title: Geologist

MEETING:			
ADDITIONAL ACTIVITIES AND R	EMARKS:		
Dv. Mika Ehnat			
By: Mike Ehnot			



# **Daily Status Report**

PROJECT: Old Roosevelt Field Site Remedial Action

			WEATHER: Sunny & Mild TEMP: 35/50 WIND:
		Gravel Roadway Construction	1
PERSONN	EL ONSITE		
CDM Smith	: Mike Ehnot		
		VISITORS	
TIME	NAME	REPRESENTING	REMARKS
7:00	Road Building Crew	UTD	Place and grade topsoil
	odel TL 240 Skid Steer Loade	er (1.5 cy)	
-The UTD re for seeding	oad building subcontractor pla for site restoration. CDM Sm		ray. The topsoil is graded and raked to prepare ies.
WORK BEI	NG INSPECTED:		
NA JOB SAFE Daily tailgat	TY. INDICATE WHAT WAS One Health & Safety meeting To	CHECKED, RESULTS, AND CORRECTI pic: NA	IVE ACTIONS TAKEN:
TESTING P	ERFORMED:		
PROBLEMA	DELAYS/CORRECTIVE ACT	ΓΙΟΝ ΤΟ BE TAKEN:	
GREEN RE	MEDIATION PRACTICES IM	PLEMENTED AND QUANTITIES TRAC	CKED:
COMMUNIC	CATION WITH CONTRACTO	R STAFF:	
MEETING:			



Date: <u>4-4-13</u>
Day: 81 (Thursday)

# **Daily Status Report (Continued)**

PROJECT: Old Roosevelt Field Site

ADDITIONAL ACTIVITIES AND REMARKS:		
By: <u>Mike Ehnot</u> Title: Geologist		



ATTACHMENT 2 FIELD LOGBOOK NOTES

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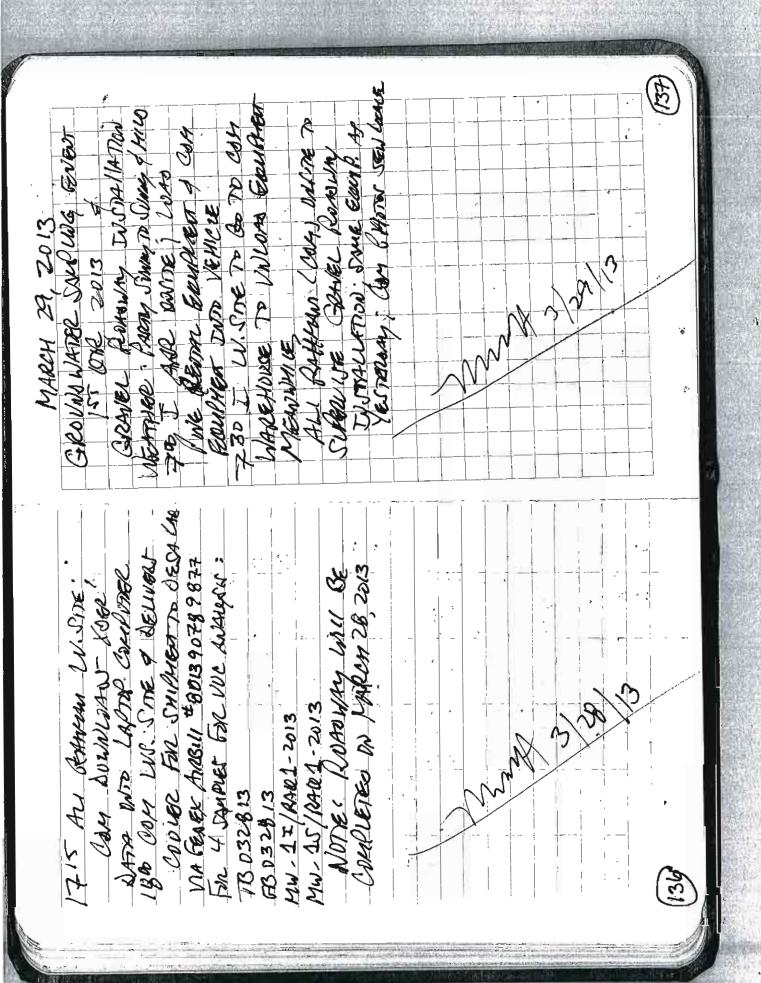
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13 3/26/13

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TO SOUTH 4BUNER Lots of nethous 405 mHour 013 Posts Jia Bar 17.83E DE 18. SELVESE 12 SPAR. 12 Roll

# ATTACHMENT 3 WATER LEVEL MEASUREMENT DATA SHEETS

# Schlumberger WATER SERVICES

# Westbay Piezometric Pressures/Levels

Field Data and Calculation Sheet

Client ERA Job No: Location: GRF Weather: 46°F w.Hy clo Operator: J. Beant T.M ading (Pan) (pressure, temperature, time) H. 58 Finish: 14.60	7.91.92	Comments														
		Piez Level Outside Port	) Dz = Dp - H				•			,						
\$555 \$55 \$00 MP38		Pressure Head	H = (P2-Patm)/w											•	1	
355		Time H:M:S										17.43				
Probe Type: Serial No.: Probe Range: Westbay Casing Type:	z).	Probe Temp.	(5)									16.31				
Pro Westbay Ca	ametric level (D		Inside CasIng (P1)									44.58				
Tue depth (Dp)	late zone prez	Fluid Pressure Readings	Outside CasIng (P2)									44.68				
long drillhole.	on data to calcu	Fluid	Inside Casing (P1)									44,58				
Well No-Datum: Ilev. G.S.: Iove G.S.: Iy Casing: Elevation: Ole angle: Doneholes refer to position alon	gle and devletion	True Port	( )													
Well No- Datum: Elev. G.S.: Height of Westbay above G.S.: Elev. top of Westbay Casing: Reference Elevation: Borehole angle: AG*	calculated using borehole angle and devietion data to calculate zone plezometnic level (LZ).	Port Position	( )													
Well No-EDatum:  Elev. G.S.:  Height of Westbay above G.S.:  Elev. top of Westbay Casing:  Reference Elevation:  Borehole angle:  "Port position" in angled boreholes rel	calcutated usi	u	( )	ast1	804	EtE	318	293	253	303	153	103	53			
Height c Elev. 1			TOT NO.	~	3	W	7	3	9	4	X	0	0/			

Notes:

w=0.433 psV ft (1.422psVm) of H<sub>2</sub>O H = pressure head of water in zone

Dz = plezometric level in zone Dp = true depth of measurement port

Patm = atmospheric pressure



Field Data and Calculation Sheet

Date: 3/28/2013 Client ERA Job No.: Location: OR E Weather: 416 E partly cle Operator: J. Bronett F. F.	15.10°C   15.32°C atm (4.2)   15.10°C	Commante														
		Piez Level Outside Port (	) Dz = Dp - H							3						
MP38		Pressure Head	H = (P2-Patm)/w													
Probe Type: EMS 3555 Serial No.: 3555 robe Range: 0-500 Sasing Type: MP38		V.W.		4510	6756	1210	9759	0301	0803	080 5	7007	6363	08 16			
Probe Type: Serial No.: Probe Range: Westbay Casing Type:)	)z).	Рюбе Тетр.	(၁)	13.18	13,19	13,22	13.31	13.41	13.73	14.16	944	14.75	15 13			
Pra Westbay Ca	ometric level (I	lings	Inside Casing (P1)	18 20	180.84	163.53	146. 24	123.73	111 61	85.62	68.36	46,60	34 87			
True depth (Dp	zone piez	Fluid Pressure Readings	Outside Casing (P2)	92.961	180,79	163.51	146.23	138.93	111.63	35.67	68.40	50,00	25.13			
Stone drillihote.	on data to calci	Fluid	Inside Casing (P1)	196.82	180.85	163.54	HE 25	138.93	111 61	79 S8	68.36	46.60	74. 87			
Well No.: SVP -2 Datum: Jev. G.S.: ove G.S.: elevation: ole angle: one angle:	ıgla and deviat	True Port														
Well No.: Datum: Elev. G.S.: Westbay above G.S.: Nestbay above E.S.: Sof Westbay Casing: Reference Elevation: Borehole angle: ion' in angled boreholes rel	calculated using borehole angle and deviation data to calculate zone plezometric level (Dz).															
Well No.: SVP -2 Datum: Elev. G.S.: Height of Westbay above G.S.: Elev. top of Westbay Casing: Reference Elevation: Borehole angle:  Rosition* In angled boreholes rafer to position along drillhole. True depth (Dp) needs to be	calculated us	Port Position	rom rog	aS17	413	373	333	293	583	193	153	103	53			
Height (Elev.			Port No.		R	3	7	N	0)	7	$\alpha$	2	al	\ \ 		

Patm = atmospheric pressure

 $D_Z = plezometric level in zone$ Dp = true depth of measurement port

w = 0.433 psl/ ft (1.422psl/m) of  $H_2O$  H = pressure head of weter in zone

Notes:



Field Data and Calculation Sheet

3 5	Start. (41,55 Finish: 14,57 psi	Perminante	CONTRIBUTES										
		Piez. Level Outside Port (	) Dz ≂ D <b>p</b> - H							١			
3555 NP38		Pressure Head											
2555 2555 2555		o Williams	C.W.C.	0.734	0726	60109	073.1	0733	0735	0737			_
Probe Type: Serial No.:_ Probe Range:_ Westbay Casing Type:	z).	Probe Temp. Tame U-M.S.	(၁)	98'b	10.53	11,20	2,50	13.71	14.59	1499			
Pre Westbay Ca	) needs to be ometric level (D		Inside Casing (P1)	48 14	173.51	164 %	130.36	78.78	47.95	36.36			
	True depth (Dp	Fluid Pressure Readings	Outside Casing (P2)	193 10	173.49	164.85	150.35	78.45	48.18	36.51			
$\mathcal{O}_{\mathcal{O}}$	ition" in angled boreholes refer to postition along drilihole. True depth (Dp) needs to be calculated using borehole angle and devietion data to calculate zone plezometric level (D2).	Fluid	Inside Casing (P1)	195 14	173 51	164.36	130.26	78. 78	47.95	26. 28			
Well No.: SVP - 3 Datum: Blev. G.S.: bove G.S.: y Casing: Elevation: ole angle:	er to position a gie and devieti	True Port	da ndea										
Well No.: Datum: Elev. G.S.: Westbay above G.S.: of Westbay Casing: Reference Elevation: Borehole angle:	d boreholes rafi ng borehole an	Port Position	From Cable ( )										
Well No.: Datum: Elev. G.S.: Height of Westbay above G.S.: Elev. top of Westbay Casing: Reference Elevation: Borehole angle:	sition" in anglei calculated usli	Port Position Port Position	- Con Log	<i>ash</i>	333	373	293	173	601	53			
Height o	Note: "Port position" in angled boreholes refer to position along drillhole. True depth (Dp) needs to be calculated using borehole angle and devletion data to calculate zone plezometric level (		Fort No.	_	R	W	7	N	e	14			

Notes:

w = 0.433 psi<sup>3</sup> ft (1.422psi/m) of H<sub>2</sub>O H = pressure head of water in zone

Dz = plezometric level in zone Op = true depth of measurement port

tc level in zone Patrn ≈ atmospheric pressure



Field Data and Calculation Sheet

Date: 3/28/2013	Client EPA	Job No.:	Location: の名を	Weather 46 F path, cloudy	Operator, J. Bennett T. TICHULLERIN	Ambiant Banding (B. ) (massesses commentered commenter	14.57 Finish: 14.57	14.83°C	)	Countrients											
	ı								Prez. Level Outside Port	) Dz = Dp - H							,				
	3555 0-560 MP38					Pressure Head	H = (P2-Patm)/w														
									2 W. L.	S.M.C.	6913	6419	1760	6932	6924	5660	6926	10927	0931	6433	_
	Probe Type:	Serial No.:	Probe Range:	Westbay Casing Type:				Oz).	Рюбе Тетр.	(၁)	14.46	14.11	14.11	14.15	14.31	5445	14.62	14.70	1474	14,77	
			ā	Westbay C			) needs to be	ometric fevel (	díngs	Inside Casing (P1)	184 33	175.18	155.26 155.36	135.96	127. 34	16991	16.58	66.57	47.02	23.16	
							True depth (Dp	ulate zone piez	Fluid Pressure Readings	Outside Casing (P2)	184.31	175,56		135.90, 135.80	127.19	109 89	84.00	60.71	47.34	23.46	
-4							long drillhole.	on data to calo		Inside Casing (P1)	184,33	175.69	155.38	135.90	107.34	109.91	83.94	66.98	47.02	33.16	
Well No .: SUP-4						900	fer to position a	gie and devlati	True Port												
Well No.:	Datum:	Elev. G.S.:	bove G.S.:	bay Casing:	Reference Elevation:	Borehole angle:	d boreholes ref	calculated using borehole angle and deviation data to calculate zone piezometric (evel (Dz)	Port Position	From Log From Cause ( )											
			Height of Westbay above G.S.:	Elev. top of Westbay Casing:	Reference	Bore	Note: "Port position" In angled boretholes refer to position along drillhole. True depth (Dp) needs to be	calculated usi	Port Position	riom Log	æħ	agh	253	308	888	348	188	841	103	9H	
			Height c	Elev. 1			Note: "Port po			N E	_	4	W	4	Ŋ	e	4	X	5	10	

Notes:

w=0.433 psi/ ft (1.422psi/m) of H<sub>2</sub>O H = pressure head of water in zone

Dz = piezometric level in zone Dp = true depth of measurement port

Patm = atmospheric pressure



Field Data and Calculation Sheet

13 61	( Ed.)	0															
Date: 3/38/3013 Client EPA Job No.: Location: ORF	Operator 3. Benefit T. M. Muller (FOX)	Ambient Reading (Persure, temperature, time) 16.8 long Start: 14.56 Finish: 14.50 long Parm 14.58 psi	open many of	ellorino													
		100	Piez Level Outside Port (	) Dz = Op - H							`						
× × ×	MP38		Pressure Head	H = (P2-Patm)/w													
2555 2555 0-500			S.W.D.				810	10.19	icoi	1633	1024	1636	ical	1639			
Probe Type: Serial No.: Probe Range:	Westbay Casing Type:_	727	Probe Temp.	(၁)	- 1	15.54	100	15.7	15.38	15.61	15.92	16.18	16.37	16.79			
_ £	Westbay C	o) needs to be cometric level ((	saup	Inside Casing (P1)	189.04	179.53 179,53	157.90	138.43	17 151	113 44	86.46	69.12	45.37	33.57			
		True depth (Dr. ulate zone plez	Fluid Pressure Readings	Outside CasIng (P2)	189. F	1000	H8-184	138.46	06'KE	11373	87.13	20,00	46.54	24.6g			
7		ition" in angled boreholes rafer to position along drilihole. True depth (Dp) needs to be calculated using borehole angle and deviation data to calculate zone plezometric level (Dz).		Inside Casing (P1)	40. PS	179,53	157.90	138 43	129.77	Hh Elt	36.46	69 11	45.37	33.56			
Well No. SUP - 5 Datum: Jev. G.S.: ove G.S.:	on <sub>b</sub>	fer to position angle and deviat	True Port														
Well No.: Datum: Elev. G.S.:	o of Westbay Casing: Reference Elevation. Borehole angle:	d boreholes re															
Well No Datum: Elev. G.S.: Height of Westbay above G.S.:	Elev. top of Westbay Casing: Reference Elevation: Borehole angle:	Note: "Port position" in angled boreholes rafer to position along drilihole. True depth (Dp) needs to be calculated using borehole angle and deviation data to calculate zone plezometric level (	Port Position	( )	430	408	358	313	283	253	133	851	88	48			
Height	Elev.	Note: "Port.px		NOT NO.	_	4	6	7	2	9	17	8	0	01			

Notes:

w=0.433 psl/ ft (1.422psl/m) of H<sub>2</sub>O H = pressure head of water in zone

 $D_Z \approx plezometric level in zone \\ D_P = true depth of measurement port$ 

Patm = atmospheric pressure



# Waethay Piazometric Pressures/I eyels

Notes:

 $w=0.433~psl/ft~(1.422psl/m)~of~H_2O$  H = pressure head of water in zone

 $Dz \approx plezometric level in zone \\ Dp = true depth of measurement port$ 



# Westbay Piezometric Pressures/Levels Field Data and Calculation Sheet

Date: 3/38/36/3  Client	46°F poutly of	Ambient Reading (P <sub>etral</sub> ) (pressure, temperature, time) 14,87% Start: 14,577 Finish: 14,61	Comments										
			Piez Levef Outside Port ( ) Dz = Dp - H				1		,				
255	MP38		Pressure Head Outside Port ( ) H = (P2-Patm)/w			,							
Probe Type: EMS 3555 Serial No.: 3555 Trobe Range: 0-500			ТІте H:M:S				1219						
Probe Type: Serial No.: Probe Range:	Westbay Casing Type:	(Dz).	Probe Temp. (°C.)				14 00						
a d	Westbay C	p) needs to be cometric level ((	idings Inside Casing (P1)				h3.64						
1 1 1		Borehole angle: 10.  Note: "Port position" in angled boreholes refer to position along drillhole. True depth (Dp) needs to be calculated using borehole angle and deviation data to calculate zone plezometric level (	Fluid Pressure Readings sing Outside Insid Casing (P2)				47.44						
P. 7		along drillhole. Jon data to cak	Inside Ca (P1)				43.69						
Well No.: SVP_7 Datum: Slev. G.S.:	φ.ν.ο Ο	fier to position	True Port Depth "Dp" ( )										
Well No.: Datum: Elev. G.S.:	of Westbay Casing: Reference Elevation:	Borehole angle: angled boreholes ref ed using borehole an	Port Position From Cable ( )										
Well No.: Datum: Elev. G.S.: Heicht of Westbav above G.S.:	Elev. top of Westbay Casing: Reference Elevation:	Bore seition" in angle calculated us	Port Position From Log ( )	445	325	308	103	84					
Height	Elev.	Note: "Port px	Port No.	C	f W	4	5	9					

 $w=0.439~\text{psi}^{\prime}$  ft (1.422psi/m) of H<sub>2</sub>O H  $\approx$  pressure head of water in zone Notes:

Dz = plezometric level in zone Dp = true depth of measurement port

Patm = atmospheric pressure



Field Data and Calculation Sheet

Client Job No.: Location: Weather: Meather: Measure, temp	00	Commante												
		Piez. Level Outside Port (	) Dz = Dp - H							,				
35,655 600 MP38		Pressure Head	H = (P2-Patm)/w											
388		Time H-M-S						1137						
Probe Type:	z).	Probe Temp.	(°C)					66.PI						
Pπ Westbay Ca	) needs to be ometric level (D		Inside Casing (P1)					50.83						
	True depth (Dp	Fluid Pressure Readings	Outside Casing (P2)					54.38						
	ilong drillhole. ' on data to calco	pinia	Inside Casing (P1)					50,82						
Well No.: SVP-8 Datum: lev. G.S.: ove G.S.: y Casing: Elevation: ole angle:	fer to position a gie and devlati	True Port												
Well No.: Datum: Elev. G.S.: Westbay above G.S.: of Westbay Casing: Reference Elevation: Borehole angle:	ition" in angled boreholes refer to position along drillhole. True depth (Dp) needs to be calculated using borehole angle and deviation data to calculate zone plezometric level (Dz).	Port Position	( )											
Well No.: Datum: Elev. G.S.: Height of Westbay above G.S.: Elev. top of Westbay Casing: Reference Elevation: Borehole angle:	Note: "Port position" in angled boreholes refer to position along drillhole. True depth (Dp) needs to be calculated using borehole angle and deviation data to calculate zone plezometric level (		( )	435	373	238	851	801	48					
Height c	Note: "Port.pc	1	רסון אס.	<b>-</b>	8	$\mathcal{S}$	h	8	9					

w = 0.433 psi/ ft (1.422psi/m) of H<sub>2</sub>O H = pressure head of water in zone Notes:

Dz = plezometric level in zone Dp = true depth of measurement port

Patm = atmospheric pressure



Field Data and Calculation Sheet	Operator: Stas (2013)  Client Cod No.:  Location: 08 F  Weather: 46 F por Hy clessoly  Operator: 3 Second T. McMulla.(EPM)  Operator: 3 Second T. McMulla.(EPM)  Start: 14, 57 Finish: 14, 57	16.46°C	operation (	Comments												
•			Piez Lével (	) Dz = Dp - H							٠					
	75 3555 3555 0-500 MP38		Pressure Head	H = (P2-Patm)/w												
	**************************************		3.44.D	2	8280	0821	0853	0855	0857	6580	20,60	(मिक्	6304	5060	į.	
	Probe Type: Serial No.: Probe Range: Casing Type:	z).	Рюбе Тетр.	(၁)	15.41	14.69	14.34	H.12	4,12	14,43	14.86	15.65	15.28	15.38		
	Probe Type: Serial No.: Probe Range: Westbay Casing Type;)	calculated using borehole angle and deviation data to calculate zone plazometric level (D2)		Inside Casing (P1)	210.76	176.18	154, 52	135.03	136.37	109.62	\$3.00	65 66	46,11	33 31		
	709 சேரி (Dp	dete zone plez	Fluid Pressure Readings	Outside Casing (P2)	310.67	176.09	54.49	135.6	136.36	109.04	35. 18	65,85	46.40	22.57		
	slong drillhole.	ion data to calc		Inside Casing (P1)	J16.72	176.30	154,53	135.03	126.40	109.03	83.03	89.59	46.14	22.23		
S	well No.: SVP. 9 Datum: lev. G.S.: ove G.S.: y Casing: Elevation: ole angle: oneholes refer to position along d	ngle and devlati	True Port	do ndeo												
ERVICE	Well No.: Datum: Elev. G.S.: Westbay above G.S.: of Westbay Casing: Reference Elevation: Borehole angle: ion* In angled boreholes rel	ng borehole ar	Port Position	From Cable												
WATER SERVICES	Well No.: SVP P Datum: Elev. G.S.: Height of Westbay above G.S.: Elev. top of Westbay Casing: Reference Elevation: Borehole angle: Rote: "Port position" in angled boreholes refer to position along drillihole. True depth (Dp) needs to be	calculated us	Port Position	From Log	£84	tah	354	307	787	446	187	441	102	九九		
	Height (Elev.			Port No.	~	ત	W	7	V	9	1	a	5	a		

Notes:

w=0.433 psl/ ft (1.422psl/m) of  $H_2O$  H  $\approx$  pressure head of water in zone

Dz = plezometric level in zone Dp = true depth of measurement port

Petm = atmospheric pressure

## Schlumberger WATER SERVICES

# Westbay Piezometric Pressures/Levels

Field Data and Calculation Sheet

Date: 3/28 (2003	Client: ENA	Job No.:	Location: GK F	Weather: 46°F Party claudy	Operator: J. Parati + McM. He. Cho		Start. 14 56 Finish: 14.58 16.0	14.50°C	Соттант														
									Piez. Level Outside Port (	) Dz ≃ <u>Op</u> - H							,						
	55	n	200	MP38					Pressure Head	H = (P2-Patm)/w													
	T	3055	0-900						7.00 U-MA		8490	0660	1560	6363	1955	C457	0000	106.1	2001	800			
	Probe Type:	Serial No.:	Probe Range:	Westbay Casing Type:				)2).	P	(C)	98. H	horbi	14.06	14.35	14.39	14.67	5.03	15.35	15.78	16.00			
			ቒ	Westbay C			) needs to be	emetric level (I	dings	Inside Casing (P1)	30. POC	175,07	र्रं प्रम	133,92	0.00	167 7	16 18	64.55	45.00	21.13			
							True depth (Dp	ulate zone piez	Fluid Pressure Readings	Outside Casing (P2)	Sh OIE	80 CL1	153.70	134.29	NS, 33, 125,60	108.52	20 96	66.07	46.64	77.CE			
01-							along drillhole.	on data to calc		Inside Casing (P1)	19.600	175.12	153.53	133,94	NO, 33	107.96	\$3.00	59'HO	45.11	48'16			
Well No.: 5UP-10						"Û,	fer to position a	igle and deviati	True Port	( )													
Well No.:	Datum:	Elev. G.S.:	above G.S.:	bay Casing:	Reference Elevation:	Borehole angle:	d boreholes re	calculated using borehole angle and deviation data to calculate zone plezemetric level (Dz).	Port Position	( )													
			Height of Westbay above G.S.:	Elev. top of Westbay Casing:	Referenc	Bore	Note: "Port position" in angled boreholes refer to position along drillhole. True depth (Dp) needs to be	calculated us	Port Position	From Log	487	402	383	£0E	287	the	187	4/1	£01	£h			
			Height c	Elev.			Note: "Port po			Por No.	ţ	4	W	7	3	9	1	Ø	0	0/			

 $w = 0.433 \text{ psl/ft (1.422psl/m) of H}_2\text{O}$ H = pressure head of water in zone

Notes:

Oz = plezometric level in zone Dp = true depth of measurement port

Patm = atmospheric pressure

Nate: transdure installed at this location



		14576								•					
Westbay Piezometric Pressures/Levels Field Data and Calculation Sheet	Televisty Transles	Ambient Reading (Perm) (pressure, temperature, time) 14.59 14.59 1653 17.11°C Parm 14.59 psi	the state of	Coliminatins											
estbay F		Ami	Piez Level Outside Port (	) Dz = Dp - H							,				
>	3555 5 60 MP38		Pressure Head	H = (P2-Patm)/w										,	
	356 356 0-5		V-14-0	O'M'L DIM	1056	1011	8011	Did.	1113	117	1115	1117	NII.S	1130	
	Probe Type: Serial No.: Probe Range: Westbay Casing Type:	)2).	Probe Temp.		15.83	14.54	14.48	14.52	14.69	14.73	14.69	14.63	14.46	14,56	
	Pr Westbay C	ilion" in angled boreholes rafer to position along drillhole. True depth (Dp) needs to be calculated using borehole angle and deviation data to calculate zone plezometric level (D2).	sgulp	Inside Casing (P1)	211.97	177.33	155.66	136.15	137.48	110,14	84.11	GG. 76	47.33	33 32	
		True depth (Dp ulate zone piez	Fluid Pressure Readings	Outside Casing (P2)	313,39	177.31	156,07	136.94	128.31	111.08	85, 25	68.56	49.04	35.19	
		along drillhole.	Fluic	Inside Casing (P1)	211.97	177,33	155.67	136.15	137 48	110.15	84.15	66.80	47.24	23.36	
he to	well No.: SVP-11 Datum: Slev. G.S.: ove G.S.: Slevation:	fer to position angie and deviet	True Port												
n <b>berge</b> seavice	Well No Datum: Elev. G.S Westbay above G.S Nestbay Casing: Reference Elevation: Borehole angle:	d boreholes rei ng borehole an	Port Position	riom Cable ( )											
<b>Schlumberger</b> water services	Well No Datum: Elev. G.S Height of Westbay above G.S Elev. top of Westbay Casing: Reference Elevation: Borehole angle:	Note: "Port position" in angled boreholes refer to position along dritihole. True depth (Dp) needs to be calculated using borehole angle and devietion data to calculate zone plezometric level (	_	( )	185	402	352	307	787	the	187	441	201	£h	
	Height	Note: "Port px	1	FOIT NO.		2	E	†	3	9	1	$\infty$	5	01	

Notes:

w = 0.433 psV ft (1.422psVm) of H<sub>2</sub>O H = pressure head of water in zone

Dz ≈ piezometric level in zone Dp = true depth of measurement port

Patm = atmospheric pressure



# Westbay Piezometric Pressures/Levels

Field Data and Calculation Sheet	Date:         3/28/2013           Client         EPA           Job No.:         Location:           OR F	Weather: 46 of porting cloudy	1207 me) 14.69%	9 8	Comments														
•					Piez Level Outside Port (	) Dz = Dp - H							,						<u>-</u>
	5 55	MP38			Pressure Head Outside Port ( )	H = (P2-Patm)/w											/		
	3655 3655 0-500	×			Time H:M:S										9021			 -	
	Probe Type:_ Serial No.:_ Probe Range:_	sing Type:		·	Probe Temp.	(25)			i						19.01				
	r or	Westbay Casing Type:		needs to be metric level (Dz		Inside Casing (P1)									5186				
		>		rue depth (Dp) ate zone plezor	ea l	Outside II Casing (P2)					1				50.76				
	11			ition" in angled bereholes refer to position atong drillhole. True depth (Dp) needs to be calculated using borehole angle and deviation data to calculate zone plezometric level (Dz).	Fluid	Inside Casing (P1)									51.87				
"	well No.: SVP-14 Datum: lev. G.S.: ove G.S.:		900	er to position al gle and deviatio	True Port														
ERVICES	Well No.: Datum: Elev. G.S.:	o of Westbay Casing:	Borehole angle:	d bereholes rafi ng borehole any	Port Position														
WATER SERVICES	Well No.: Datum: Elev. G.S.: Height of Westbay above G.S.:	Elev. top of Westbay Casing:	Bore	Note: "Port-position" In angled bereholes rafer to position along drillhole. True depth (Dp) needs to be calculated using borehole angle and devistion data to calculate zone plezometric level (	Port Position		530	490	410	<i>PR</i>	300	asc	185	145	100	98	<b>)</b>		
	Height o	Elev.		Note: "Port-pc	oN to		-	8	W	4	5	0	4	Œ	0	0/			

w=0.433 psl/ ft (1.422psl/m) of H<sub>2</sub>O H = pressure head of water in zone Notes:

 $Dz = plezometric level in zone \\ Dp = true depth of measurement port$ 

Patm = atmospheric pressure

•			WTG	
Well ID	<u>Date</u>	Time	(feet TOC)	Comments
GWX-10019	K	1548	28.50	messured at toc (at ground surface)
GWX-10020		1559	24.31	A TIC (at grand surface)
MW-11	-	1535	77.47	
MW-1S		1537	78.14	
MW-21		-eehl	78,97	
MW-2S		1440	J.B. 41	
MW-3I		1345	22,00	
MW-3S	3/18/13	1343	31.80	
		٠.		
01-625				0.51 ft PVC to grand surface
6-015				0.51 11
11-015				0,54 &

Page 1 of 1

ATTACHMENT 4
WATER LEVEL MEASUREMENT TABLE

## Groundwater Elevation Data: 1st Quarter (March 28, 2013) Old Roosevelt Field Contaminated Groundwater Site Garden City, New York

Syp-3    S							1st C	Quarter (March	28. 2013)	
Well   Property   Fresh										
Wellin   Port			Ground							
Well ID   Port   Flexation   Port Depth   (feet bgs)   (feet ms)   (feet ms)   (feet bgs)   (feet ms)   (feet ms)   (feet bgs)   (feet ms)   (feet ms			Surface	Measurement	Port	Atm.	Outside	Pressure	Depth to	Water Level
SVP-17         9         86.58         103         -16.42         14.59         49.68         81.04         22.05         64.53           SVP-2         1         88.39         450         -961.61         14.59         196.76         20.72         22.73         58.66           2         2.88.39         413         -324.61         14.59         180.79         381.83         20.58         58.81           4         88.839         333         -244.61         14.59         146.23         304.02         29.22         33.1         50.08           5         88.839         253         -164.61         14.59         146.23         304.02         29.22         35.17           6         88.839         153         -164.61         14.59         85.67         164.16         29.02         35.37           7         88.839         153         -64.61         14.59         86.20         74.43         28.65         55.53           9         88.839         153         -64.61         14.59         46.52         74.43         28.65         55.53           9         88.839         103         31.45         46.61         14.59         46.52         74.43			Elevation	Port Depth	Elevation	Pressure	Casing	Head	•	Elevation
SVP-2	Well ID	Port	(feet msl)	(feet bgs)	(feet msl)	(psi)	(psi)	(feet)	(feet bgs)	(feet msl)
2	SVP-1*	9	86.58	103	-16.42	14.59	49.68	81.04	22.05	64.53
3	SVP-2	1	88.39	450	-361.61	14.59	196.76	420.72	29.73	58.66
4		2	88.39	413	-324.61	14.59	180.79	383.83	29.58	58.81
SVP-3         88.39         293         -204.61         14.59         11.63         224.11         29.13         59.26           7         88.39         193         -104.61         14.59         85.67         164.16         29.02         59.37           8         88.39         193         -104.61         14.59         85.67         164.16         29.02         59.37           8         88.39         103         -14.61         14.59         68.40         174.27         28.86         595.3           10         88.39         103         -14.61         14.59         46.82         74.43         28.65         59.74           10         88.39         53         35.39         14.59         25.12         24.32         28.71         59.68           5VP-3         1         87.17         450         -36.28         14.57         19.30         43.86         26.00         60.57           2         87.17         333         -305.83         14.57         19.48         34.07         26.37         60.80           3         87.17         173         85.83         14.57         18.48         347.07         26.37         60.80         16.127 </td <td></td> <td>3</td> <td>88.39</td> <td>373</td> <td>-284.61</td> <td>14.59</td> <td>163.51</td> <td>343.93</td> <td>29.44</td> <td>58.95</td>		3	88.39	373	-284.61	14.59	163.51	343.93	29.44	58.95
Fig.		4	88.39	333	-244.61	14.59	146.23		29.31	59.08
Fig.			88.39		-204.61	14.59	128.93	264.06	29.22	59.17
8										
Part										
SVP-3										
SVP-3         1         87.17         450         -362.83         14.57         198.10         423.86         26.60         60.57           2         87.17         393         -305.83         14.57         173.49         367.02         26.37         60.80           3         87.17         373         -288.83         14.57         150.485         347.07         26.30         60.87           4         87.17         293         -205.83         14.57         130.35         267.39         25.90         61.54           6         87.17         103         -15.83         14.57         78.45         14.753         25.63         61.54           6         87.17         103         -15.83         14.57         78.45         14.753         25.63         61.54           7         87.17         153         34.17         145.77         181.18         77.62         25.46         61.71           7         87.17         153         34.17         145.7         125.51         27.78         25.46         61.71           8         88.85         420         -331.15         14.57         175.56         371.80         28.64         60.21										
2   87.17   393   -305.83   14.57   173.49   367.02   263.7   60.80										
SVP-5	SVP-3									
\$\begin{array}{c c c c c c c c c c c c c c c c c c c										
5         87.17         173         -85.83         14.57         78.45         147.53         25.63         61.54           6         87.17         103         -15.83         14.57         48.18         77.62         25.46         61.71           SVP-4         1         88.85         420         -331.15         14.57         184.21         391.78         28.64         60.21           2         88.85         400         -311.15         14.57         175.56         324.92         28.43         60.25           3         88.85         353         -264.15         14.57         155.26         324.92         28.43         60.42           4         88.85         308         -219.15         14.57         155.26         324.92         28.32         60.53           5         88.85         308         -219.15         14.57         109.89         220.14         28.10         60.75           7         88.85         188         -99.15         14.57         40.00         160.35         27.82         61.03           8         88.85         103         -14.15         14.57         40.00         160.35         27.82         61.03										
SVP-4										
SVP-4         1         88.85         420         -331.15         14.57         184.21         391.78         28.64         60.21           SVP-4         1         88.85         420         -331.15         14.57         184.21         391.78         28.64         60.21           3         88.85         400         -311.15         14.57         175.56         371.80         28.60         60.25           3         88.85         353         -264.15         14.57         155.26         324.92         28.43         60.42           4         88.85         308         -219.15         14.57         135.80         279.98         28.32         60.53           6         88.85         288         -199.15         14.57         109.89         220.14         28.10         60.75           7         88.85         148         -59.15         14.57         84.00         160.35         27.82         61.03           8         88.85         148         -59.15         14.57         49.40         160.35         27.82         61.03           8         88.85         148         40.85         14.57         23.46         20.53         27.49         61.34										
SVP-4         1         88.85         420         -331.15         14.57         184.21         391.78         28.64         60.21           2         88.85         400         -311.15         14.57         175.56         371.80         28.60         60.25           3         88.85         353         -264.15         14.57         155.26         324.92         28.43         60.42           4         88.85         308         -219.15         14.57         135.80         279.98         28.32         60.53           5         88.85         288         -199.15         14.57         193.80         220.94         28.19         60.66           6         88.85         248         -199.15         14.57         199.89         220.14         28.10         60.75           7         88.85         148         -99.15         14.57         19.99         220.14         28.10         60.75           7         88.85         148         -99.15         14.57         47.24         75.45         27.63         61.22           10         88.85         48         40.85         14.57         23.46         20.53         27.49         61.36										
2   88.85   400   -311.15   14.57   175.56   371.80   28.60   60.25	S\/P-4									
3   88.85   353   -264.15   14.57   155.26   324.92   28.43   60.42     4   88.85   308   -219.15   14.57   135.80   279.98   28.32   60.53     5   88.85   288   -199.15   14.57   172.19   260.09   28.19   60.66     6   88.85   248   -159.15   14.57   109.89   220.14   28.10   60.75     7   88.85   188   -99.15   14.57   84.00   160.35   27.82   61.03     8   88.85   148   -59.15   14.57   66.71   120.42   27.71   61.14     9   88.85   103   -14.15   14.57   47.24   75.45   27.63   61.22     10   88.85   48   40.85   14.57   23.46   20.53   27.49   61.36     SVP-5   1   85.55   430   -344.45   14.58   189.29   403.49   26.94   58.61     2   85.55   338   -272.45   14.58   189.29   403.49   26.94   58.61     3   85.55   358   -272.45   14.58   157.84   330.85   27.50   58.05     4   85.55   313   -227.45   14.58   157.84   330.85   27.50   58.05     4   85.55   293   -207.45   14.58   129.90   266.33   26.96   58.59     6   85.55   253   -167.45   14.58   112.73   226.67   26.57   58.98     7   85.55   98   -12.45   14.58   70.00   127.99   25.15   60.40     9   85.55   48   37.55   14.58   24.69   23.35   24.68   60.87     SVP-8*   5   60.88   105   -24.12   14.61   55.46   94.34   10.76   50.12     SVP-8*   5   62.26   103   -40.74   14.60   54.38   91.87   11.23   51.03     SVP-9*   5   62.26   103   -40.74   14.57   154.49   323.14   29.20   61.07     4   90.27   307   -216.73   14.57   154.49   323.14   29.20   61.07     4   90.27   307   -216.73   14.57   154.49   323.14   29.20   61.07     5   90.27   187   -96.73   14.57   154.49   323.14   29.20   61.07     6   90.27   247   -156.73   14.57   154.49   323.14   29.20   61.07     6   90.27   247   -156.73   14.57   154.49   323.14   29.20   61.07     6   90.27   247   -156.73   14.57   154.49   323.14   29.20   61.07     6   90.27   247   -156.73   14.57   154.49   323.14   29.20   61.07     6   90.27   247   -156.73   14.57   156.85   118.43   28.70   61.57     9   90.27   187   -96.73   14.57   66.40   73.51   28.57   61.70	371 4	-								
4         88.85         308         -219.15         14.57         135.80         279.98         28.32         60.53           5         88.85         288         -199.15         14.57         127.19         260.09         28.19         60.66           6         88.85         248         -159.15         14.57         109.89         220.14         28.10         660.75           7         88.85         188         -99.15         14.57         84.00         160.35         27.82         61.03           8         88.85         148         -59.15         14.57         66.71         120.42         27.71         61.14           9         88.85         148         49.85         14.57         47.24         75.45         27.63         61.22           10         88.85         48         40.85         14.57         23.46         20.53         27.49         61.36           SVP-5         1         85.55         430         -344.45         14.58         189.29         403.49         26.94         58.61           SVP-5         1         85.55         430         -32.45         14.58         189.29         403.49         26.94         58.61										
5         88.85         288         -199.15         14.57         127.19         260.09         28.19         60.66           6         88.85         248         -159.15         14.57         109.89         220.14         28.10         60.75           7         88.85         148         -59.15         14.57         84.00         160.35         27.82         61.03           8         88.85         148         -59.15         14.57         66.71         120.42         27.71         61.14           9         88.85         103         -14.15         14.57         47.24         75.45         27.63         61.22           10         88.85         48         40.85         14.57         23.46         20.53         27.49         61.36           SVP-5         1         85.55         430         -344.45         14.58         189.29         403.49         26.94         58.61           2         85.55         358         -272.45         14.58         179.53         380.95         27.46         58.09           3         35.55         358         -272.45         14.58         157.84         30.85         27.50         58.05										
7         88.85         188         -99.15         14.57         84.00         160.35         27.82         61.03           8         88.85         148         -59.15         14.57         66.71         120.42         27.71         61.14           9         88.85         103         -14.15         14.57         47.24         75.45         27.63         61.22           10         88.85         48         40.85         14.57         23.46         20.53         27.49         61.36           SVP-5         1         85.55         430         -344.45         14.58         189.29         403.49         26.94         58.61           2         85.55         408         -322.45         14.58         179.53         380.95         27.46         58.09           3         85.55         313         -227.45         14.58         179.53         380.95         27.46         58.09           4         85.55         313         -227.45         14.58         138.46         286.10         27.21         58.34           5         85.55         293         -207.45         14.58         129.90         266.33         26.96         58.59										
7         88.85         188         -99.15         14.57         84.00         160.35         27.82         61.03           8         88.85         148         -59.15         14.57         66.71         120.42         27.71         61.14           9         88.85         103         -14.15         14.57         47.24         75.45         27.63         61.22           10         88.85         48         40.85         14.57         23.46         20.53         27.49         61.36           SVP-5         1         85.55         430         -344.45         14.58         189.29         403.49         26.94         58.61           2         85.55         408         -322.45         14.58         179.53         380.95         27.46         58.09           3         85.55         313         -227.45         14.58         179.53         380.95         27.46         58.09           4         85.55         313         -227.45         14.58         138.46         286.10         27.21         58.34           5         85.55         293         -207.45         14.58         129.90         266.33         26.96         58.59		6	88.85	248	-159.15	14.57	109.89	220.14	28.10	60.75
9         88.85         103         -14.15         14.57         47.24         75.45         27.63         61.22           10         88.85         48         40.85         14.57         23.46         20.53         27.49         61.36           SVP-5         1         85.55         430         -344.45         14.58         189.29         403.49         26.94         58.61           2         85.55         408         -322.45         14.58         179.53         380.95         27.46         58.09           3         85.55         358         -272.45         14.58         157.84         330.85         27.50         58.05           4         85.55         313         -227.45         14.58         138.46         286.10         27.21         58.34           5         85.55         293         -207.45         14.58         112.73         226.63         26.96         58.59           7         85.55         193         -107.45         14.58         112.73         226.67         26.57         58.98           7         85.55         193         -107.45         14.58         70.00         127.99         25.15         60.40		7	88.85	188			84.00	160.35	27.82	61.03
10		8	88.85	148	-59.15	14.57	66.71	120.42	27.71	61.14
SVP-5         1         85.55         430         -344.45         14.58         189.29         403.49         26.94         58.61           2         85.55         408         -322.45         14.58         179.53         380.95         27.46         58.09           3         85.55         358         -272.45         14.58         157.84         330.85         27.50         58.05           4         85.55         313         -227.45         14.58         129.90         266.33         26.96         58.59           5         85.55         293         -207.45         14.58         129.90         266.33         26.96         58.59           6         85.55         253         -167.45         14.58         112.73         226.67         26.57         58.98           7         85.55         193         -107.45         14.58         87.13         167.55         25.63         59.92           8         85.55         193         -67.45         14.58         87.13         167.55         25.63         59.92           8         85.55         198         -12.45         14.58         27.00         127.99         25.15         60.40		9	88.85	103	-14.15	14.57	47.24	75.45	27.63	61.22
2         85.55         408         -322.45         14.58         179.53         380.95         27.46         58.09           3         85.55         358         -272.45         14.58         157.84         330.85         27.50         58.05           4         85.55         313         -227.45         14.58         129.90         266.33         26.96         58.59           5         85.55         293         -207.45         14.58         112.73         226.67         26.57         58.98           6         85.55         253         -167.45         14.58         112.73         226.67         26.57         58.98           7         85.55         193         -107.45         14.58         87.13         167.55         25.63         59.92           8         85.55         153         -67.45         14.58         70.00         127.99         25.15         60.40           9         85.55         98         -12.45         14.58         40.34         73.35         24.73         60.82           SVP-6*         5         60.88         105         -44.12         14.61         55.46         94.34         10.76         50.12		10	88.85	48	40.85	14.57	23.46	20.53	27.49	61.36
3   85.55   358   -272.45   14.58   157.84   330.85   27.50   58.05     4   85.55   313   -227.45   14.58   138.46   286.10   27.21   58.34     5   85.55   293   -207.45   14.58   129.90   266.33   26.96   58.59     6   85.55   253   -167.45   14.58   112.73   226.67   26.57   58.98     7   85.55   193   -107.45   14.58   87.13   167.55   25.63   59.92     8   85.55   153   -67.45   14.58   70.00   127.99   25.15   60.40     9   85.55   98   -12.45   14.58   46.34   73.35   24.73   60.82     10   85.55   48   37.55   14.58   24.69   23.35   24.68   60.87     SVP-6*   5   60.88   105   -44.12   14.61   55.46   94.34   10.76   50.12     SVP-8*   5   62.26   103   -20.42   14.59   47.44   75.87   27.22   55.36     SVP-9*   1   90.27   482   -391.73   14.57   210.67   452.89   29.60   60.67     2   90.27   402   -311.73   14.57   176.09   373.03   29.37   60.90     3   90.27   352   -261.73   14.57   154.49   323.14   29.20   61.07     4   90.27   287   -196.73   14.57   154.49   323.14   29.20   61.07     4   90.27   287   -196.73   14.57   126.36   258.18   29.10   61.17     6   90.27   247   -156.73   14.57   126.36   258.18   29.10   61.17     6   90.27   187   -96.73   14.57   109.04   218.18   29.06   61.21     7   90.27   187   -96.73   14.57   16.95   31.03   28.57   61.70	SVP-5	1	85.55	430	-344.45	14.58	189.29	403.49	26.94	58.61
4         85.55         313         -227.45         14.58         138.46         286.10         27.21         58.34           5         85.55         293         -207.45         14.58         129.90         266.33         26.96         58.59           6         85.55         253         -167.45         14.58         112.73         226.67         26.57         58.98           7         85.55         193         -107.45         14.58         87.13         167.55         25.63         59.92           8         85.55         193         -67.45         14.58         70.00         127.99         25.15         60.40           9         85.55         98         -12.45         14.58         46.34         73.35         24.73         60.82           SVP-6*         5         60.88         105         -44.12         14.61         55.46         94.34         10.76         50.12           SVP-7*         5         82.58         103         -20.42         14.59         47.44         75.87         27.22         55.36           SVP-8*         5         62.26         103         -40.74         14.60         54.38         91.87         11.23					-322.45					
5         85.55         293         -207.45         14.58         129.90         266.33         26.96         58.59           6         85.55         253         -167.45         14.58         112.73         226.67         26.57         58.98           7         85.55         193         -107.45         14.58         87.13         167.55         25.63         59.92           8         85.55         153         -67.45         14.58         70.00         127.99         25.15         60.40           9         85.55         98         -12.45         14.58         46.34         73.35         24.73         60.82           SVP-6*         5         60.88         105         -44.12         14.61         55.46         94.34         10.76         50.12           SVP-7*         5         82.58         103         -20.42         14.59         47.44         75.87         27.22         55.36           SVP-8*         5         62.26         103         -40.74         14.60         54.38         91.87         11.23         51.03           SVP-9         1         90.27         482         -391.73         14.57         210.67         452.89										
6         85.55         253         -167.45         14.58         112.73         226.67         26.57         58.98           7         85.55         193         -107.45         14.58         87.13         167.55         25.63         59.92           8         85.55         153         -67.45         14.58         70.00         127.99         25.15         60.40           9         85.55         98         -12.45         14.58         46.34         73.35         24.73         60.82           10         85.55         48         37.55         14.58         24.69         23.35         24.68         60.87           SVP-6*         5         60.88         105         -44.12         14.61         55.46         94.34         10.76         50.12           SVP-7*         5         82.58         103         -20.42         14.59         47.44         75.87         27.22         55.36           SVP-8*         5         62.26         103         -40.74         14.60         54.38         91.87         11.23         51.03           SVP-9         1         90.27         482         -391.73         14.57         210.67         452.89         <										
7         85.55         193         -107.45         14.58         87.13         167.55         25.63         59.92           8         85.55         153         -67.45         14.58         70.00         127.99         25.15         60.40           9         85.55         98         -12.45         14.58         46.34         73.35         24.73         60.82           10         85.55         48         37.55         14.58         24.69         23.35         24.68         60.87           SVP-6*         5         60.88         105         -44.12         14.61         55.46         94.34         10.76         50.12           SVP-7*         5         82.58         103         -20.42         14.59         47.44         75.87         27.22         55.36           SVP-8*         5         62.26         103         -40.74         14.60         54.38         91.87         11.23         51.03           SVP-9         1         90.27         482         -391.73         14.57         210.67         452.89         29.60         60.67           2         90.27         402         -311.73         14.57         176.09         373.03         <										
8         85.55         153         -67.45         14.58         70.00         127.99         25.15         60.40           9         85.55         98         -12.45         14.58         46.34         73.35         24.73         60.82           10         85.55         48         37.55         14.58         24.69         23.35         24.68         60.87           SVP-6*         5         60.88         105         -44.12         14.61         55.46         94.34         10.76         50.12           SVP-7*         5         82.58         103         -20.42         14.59         47.44         75.87         27.22         55.36           SVP-8*         5         62.26         103         -40.74         14.60         54.38         91.87         11.23         51.03           SVP-9         1         90.27         482         -391.73         14.57         210.67         452.89         29.60         60.67           2         90.27         402         -311.73         14.57         176.09         373.03         29.37         60.90           3         90.27         352         -261.73         14.57         154.49         323.14										
9         85.55         98         -12.45         14.58         46.34         73.35         24.73         60.82           SVP-6*         10         85.55         48         37.55         14.58         24.69         23.35         24.68         60.87           SVP-6*         5         60.88         105         -44.12         14.61         55.46         94.34         10.76         50.12           SVP-7*         5         82.58         103         -20.42         14.59         47.44         75.87         27.22         55.36           SVP-8*         5         62.26         103         -40.74         14.60         54.38         91.87         11.23         51.03           SVP-9         1         90.27         482         -391.73         14.57         210.67         452.89         29.60         60.67           SVP-9         1         90.27         402         -311.73         14.57         176.09         373.03         29.37         60.90           3         90.27         352         -261.73         14.57         154.49         323.14         29.20         61.07           4         90.27         307         -216.73         14.57		-								
SVP-6*         5         60.88         105         -44.12         14.61         55.46         94.34         10.76         50.12           SVP-7*         5         82.58         103         -20.42         14.59         47.44         75.87         27.22         55.36           SVP-8*         5         62.26         103         -40.74         14.60         54.38         91.87         11.23         51.03           SVP-9         1         90.27         482         -391.73         14.57         210.67         452.89         29.60         60.67           2         90.27         402         -311.73         14.57         176.09         373.03         29.37         60.90           3         90.27         352         -261.73         14.57         154.49         323.14         29.20         61.07           4         90.27         307         -216.73         14.57         135.01         278.15         29.14         61.13           5         90.27         287         -196.73         14.57         126.36         258.18         29.10         61.17           6         90.27         187         -96.73         14.57         83.10         158.27										
SVP-6*         5         60.88         105         -44.12         14.61         55.46         94.34         10.76         50.12           SVP-7*         5         82.58         103         -20.42         14.59         47.44         75.87         27.22         55.36           SVP-8*         5         62.26         103         -40.74         14.60         54.38         91.87         11.23         51.03           SVP-9         1         90.27         482         -391.73         14.57         210.67         452.89         29.60         60.67           2         90.27         402         -311.73         14.57         176.09         373.03         29.37         60.90           3         90.27         352         -261.73         14.57         154.49         323.14         29.20         61.07           4         90.27         307         -216.73         14.57         135.01         278.15         29.14         61.13           5         90.27         287         -196.73         14.57         126.36         258.18         29.10         61.17           6         90.27         187         -96.73         14.57         109.04         218.18		-								
SVP-7*         5         82.58         103         -20.42         14.59         47.44         75.87         27.22         55.36           SVP-8*         5         62.26         103         -40.74         14.60         54.38         91.87         11.23         51.03           SVP-9         1         90.27         482         -391.73         14.57         210.67         452.89         29.60         60.67           2         90.27         402         -311.73         14.57         176.09         373.03         29.37         60.90           3         90.27         352         -261.73         14.57         154.49         323.14         29.20         61.07           4         90.27         307         -216.73         14.57         135.01         278.15         29.14         61.13           5         90.27         287         -196.73         14.57         126.36         258.18         29.10         61.17           6         90.27         247         -156.73         14.57         109.04         218.18         29.06         61.21           7         90.27         147         -56.73         14.57         65.85         118.43         28.70 <td>SV/P-6*</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td>	SV/P-6*									
SVP-8*         5         62.26         103         -40.74         14.60         54.38         91.87         11.23         51.03           SVP-9         1         90.27         482         -391.73         14.57         210.67         452.89         29.60         60.67           2         90.27         402         -311.73         14.57         176.09         373.03         29.37         60.90           3         90.27         352         -261.73         14.57         154.49         323.14         29.20         61.07           4         90.27         307         -216.73         14.57         135.01         278.15         29.14         61.13           5         90.27         287         -196.73         14.57         126.36         258.18         29.10         61.17           6         90.27         247         -156.73         14.57         109.04         218.18         29.06         61.21           7         90.27         187         -96.73         14.57         83.10         158.27         28.90         61.37           8         90.27         147         -56.73         14.57         65.85         118.43         28.70         61.57 <td>-</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td>	-									
SVP-9         1         90.27         482         -391.73         14.57         210.67         452.89         29.60         60.67           2         90.27         402         -311.73         14.57         176.09         373.03         29.37         60.90           3         90.27         352         -261.73         14.57         154.49         323.14         29.20         61.07           4         90.27         307         -216.73         14.57         135.01         278.15         29.14         61.13           5         90.27         287         -196.73         14.57         126.36         258.18         29.10         61.17           6         90.27         247         -156.73         14.57         109.04         218.18         29.06         61.21           7         90.27         187         -96.73         14.57         83.10         158.27         28.90         61.37           8         90.27         147         -56.73         14.57         65.85         118.43         28.70         61.57           9         90.27         102         -11.73         14.57         46.40         73.51         28.57         61.70	-	-								
2     90.27     402     -311.73     14.57     176.09     373.03     29.37     60.90       3     90.27     352     -261.73     14.57     154.49     323.14     29.20     61.07       4     90.27     307     -216.73     14.57     135.01     278.15     29.14     61.13       5     90.27     287     -196.73     14.57     126.36     258.18     29.10     61.17       6     90.27     247     -156.73     14.57     109.04     218.18     29.06     61.21       7     90.27     187     -96.73     14.57     83.10     158.27     28.90     61.37       8     90.27     147     -56.73     14.57     65.85     118.43     28.70     61.57       9     90.27     102     -11.73     14.57     46.40     73.51     28.57     61.70		_								
3     90.27     352     -261.73     14.57     154.49     323.14     29.20     61.07       4     90.27     307     -216.73     14.57     135.01     278.15     29.14     61.13       5     90.27     287     -196.73     14.57     126.36     258.18     29.10     61.17       6     90.27     247     -156.73     14.57     109.04     218.18     29.06     61.21       7     90.27     187     -96.73     14.57     83.10     158.27     28.90     61.37       8     90.27     147     -56.73     14.57     65.85     118.43     28.70     61.57       9     90.27     102     -11.73     14.57     46.40     73.51     28.57     61.70	J J	-								
4     90.27     307     -216.73     14.57     135.01     278.15     29.14     61.13       5     90.27     287     -196.73     14.57     126.36     258.18     29.10     61.17       6     90.27     247     -156.73     14.57     109.04     218.18     29.06     61.21       7     90.27     187     -96.73     14.57     83.10     158.27     28.90     61.37       8     90.27     147     -56.73     14.57     65.85     118.43     28.70     61.57       9     90.27     102     -11.73     14.57     46.40     73.51     28.57     61.70										
5         90.27         287         -196.73         14.57         126.36         258.18         29.10         61.17           6         90.27         247         -156.73         14.57         109.04         218.18         29.06         61.21           7         90.27         187         -96.73         14.57         83.10         158.27         28.90         61.37           8         90.27         147         -56.73         14.57         65.85         118.43         28.70         61.57           9         90.27         102         -11.73         14.57         46.40         73.51         28.57         61.70		-								
6     90.27     247     -156.73     14.57     109.04     218.18     29.06     61.21       7     90.27     187     -96.73     14.57     83.10     158.27     28.90     61.37       8     90.27     147     -56.73     14.57     65.85     118.43     28.70     61.57       9     90.27     102     -11.73     14.57     46.40     73.51     28.57     61.70										
7     90.27     187     -96.73     14.57     83.10     158.27     28.90     61.37       8     90.27     147     -56.73     14.57     65.85     118.43     28.70     61.57       9     90.27     102     -11.73     14.57     46.40     73.51     28.57     61.70		6								
8     90.27     147     -56.73     14.57     65.85     118.43     28.70     61.57       9     90.27     102     -11.73     14.57     46.40     73.51     28.57     61.70										
		8	90.27	147		14.57			28.70	61.57
10 90.27 47 43.27 14.57 22.57 18.48 28.54 61.73		9	90.27	102	-11.73	14.57	46.40	73.51	28.57	61.70
		10	90.27	47	43.27	14.57	22.57	18.48	28.54	61.73



## Groundwater Elevation Data: 1st Quarter (March 28, 2013) Old Roosevelt Field Contaminated Groundwater Site Garden City, New York

						1st C	uarter (March	28, 2013)	
Well ID	Port	Ground Surface Elevation (feet msl)	Measurement Port Depth (feet bgs)	Port Elevation (feet msl)	Atm. Pressure (psi)	Fluid Pressure- Outside Casing (psi)	Pressure Head (feet)	Depth to Water (feet bgs)	Water Level Elevation (feet msl)
SVP-10	1	87.83	482	-394.17	14.57	210.45	452.38	30.10	57.73
	2	87.83	402	-314.17	14.57	175.08	370.69	31.70	56.13
	3	87.83	352	-264.17	14.57	153.70	321.32	31.03	56.80
	4	87.83	307	-219.17	14.57	134.29	276.49	30.81	57.02
	5	87.83	287	-199.17	14.57	125.60	256.42	30.85	56.98
	6	87.83	247	-159.17	14.57	108.52	216.97	30.26	57.57
	7	87.83	187	-99.17	14.57	82.96	157.94	29.22	58.61
	8	87.83	147	-59.17	14.57	66.07	118.94	28.19	59.64
	9	87.83	102	-14.17	14.57	46.64	74.06	28.01	59.82
	10	87.83	47	40.83	14.57	22.77	18.94	28.08	59.75
SVP-11	1	80.32	482	-401.68	14.59	212.39	456.81	25.68	54.64
	2	80.32	402	-321.68	14.59	177.31	375.80	26.60	53.72
	3	80.32	352	-271.68	14.59	156.07	326.74	25.61	54.71
	4	80.32	307	-226.68	14.59	136.94	282.56	24.74	55.58
	5	80.32	287	-206.68	14.59	128.31	262.63	24.65	55.67
	6	80.32	247	-166.68	14.59	111.08	222.84	24.40	55.92
	7	80.32	187	-106.68	14.59	85.25	163.19	23.99	56.33
	8	80.32	147	-66.68	14.59	68.56	124.64	22.49	57.83
	9	80.32	102	-21.68	14.59	49.04	79.56	22.52	57.80
	10	80.32	47	33.32	14.59	25.19	24.48	22.55	57.77
SVP-14*	9	69.07	100.0	-30.93	14.60	50.76	83.51	16.58	52.49

### Notes:

bgs = below ground surface msl = mean sea level Atm. = Atmospheric psi = pounds per square inch

\* Only one port was measured for water levels at SVP-1, SVP-6, SVP-7, SVP-8 and SVP-14

No water levels were obtained at SVP-12 and SVP-13



## Groundwater Elevation Data: 1st Quarter (March 28, 2013) Old Roosevelt Field Contaminated Groundwater Site Garden City, New York

Date:	March 28,	2013		Groundwater
		Elevation		Elevation
Well ID	TIME	TOC (feet MSL)	DTW (ft. TOC)	(feet MSL)
GWX-10019	15:48	85.19	28.50	56.69
GWX-10020	15:59	81.85	24.31	57.54
MW-1I	15:35	86.36	27.97	58.39
MW-1S	15:37	86.11	28.14	57.97
MW-2I	14:22	86.59	28.97	57.62
MW-2S	14:40	87.15	28.41	58.74
MW-3I	13:45	79.09	22.00	57.09
MW-3S	13:42	79.13	21.80	57.33

ATTACHMENT 5
GROUNDWATER SAMPLING DATA SHEETS

## Groundwater Sampling Field Data Sheet

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Monitoring Well No.:  $\frac{\text{KOOSEVEL}}{\text{Syll} - H}$ Sampling Zone No(s)::  $\frac{1 - 10}{1 - 10}$ 

Start Time: 10:08 Atm. Rdg: 1419 5 14:42
End Time: 1140 Atm. Rdg: 14, 50
Operators: J. Benett 7, Number

ents	covered)	27	5	0	to.	7	0							
Comments	(volume recovered)	1022	1635	1050	1105	Liu	1130							
	Pressure in Westbay ( )	27.57	Hb551	135.95	85 CC1	10994	8391							
	Shoe in	1	1	1	1	1	1							
bay casing	Close	1	1	1	1	1	1							7
Sample Collection Checks (probe located at sampling zone in Westbay casing)	Zone Pressure ( )	175.67	155.37	135.30	56,701	10993	84.00							
mple Colle	Open Valve	1	1	1	1	1	7		,					j
Sa robe located a	Zone Pressure ( )	17567	155.38	135.91	127.25	109.94	83.99							3
y y	Shoe Out	1	1	1	1	1	1	-				<del> </del>		i i
	Pressure in Westbay ( )	25.75	155,44	135.94	TE 151	169.93	83.91							
	Land Probe	1	1	1	1	1	1							
Position Sampler	Arm Out	1	1	1	1	1	1							
	Locate	7	1	7	1	1	1							
	Close	1	1	1	1	1	1							
	Apply Vacuum	>	1	1	1	7	1							
ction Test	Open Valve	>	1	1	1	1	1							
Surface Function Tests (probe in flushing collar)	Check Vacuum	>	1	1	1	1	1							
ιχ id	Close	>	1	1	1	1	1			+				
	Shoe Out	×	7	1	7	7	1					<del> </del>		
.01	A nu A	-	_		-	-	-			1				
101	N hoq	ત	50	7	5	9	1							

A (arraller) 0,3 ft TOC (4") B (Let1) 24.03 Ft TOC (7")

Multiport Well Water Quality Parameters Well No. SV P - H Old Roosevelt Field Remedial Design

Turbidity (NTU)	1.51	1.04	0,47	1.30	39.7	61.1											
Temperature (°C)	14.93	14.67	14.88	15.10	15.66	15.52											
ORP (mV)	P.816	181.0	181.4	8 061	S 481	317.1											
Dissolved Oxygen (mg/L)	5.76	14,70	10.21	10.63	10.56	11.01											
Specific Conductivity (mS/cm <sup>5</sup> )	0.392	6 432	C 437	L14, 0	0.432	0.473											
Hd	248	5.56	5.63	5.66	565	5.70											
Port	3	3	7	S	و	7											
Time	1023	1035	30.50	105	1117	130				( <sub>1</sub>	11.						

## Acronyms:

°C - degrees Celsius mg/L - milligrams per Liter mS/cmc - milli-Siemens per centimeter

NTU - nephrolometric turbidity unit

## Groundwater Sampling Field Data Sheet

3/27/12

T. Menuller Atm. Rdg:\_

140 O

Start Time: End Time: Operators:

Project: ROSEVELT Monitoring Well No.: Sampling Zone No(s):

													Т			
Comments	(volume recovered)	5 421	1300	1312	1323	1337	1347	1357								
	Pressure in Westbay ( )	209.52	14.91	153.35	133.72	50.50	07.70	81.68							-	
	Shoe In	1	1	1	1	1	1	7								
ıy casing)	Close	1	1	7	7	1	1	1								
Sample Collection Checks (probe located at sampling zone in Westbay casing)	Zone Pressure ( )	30 27	174.88	153,55	134 13	135,43	108 33	82.82								
ple Collec sampling	Open Valve	1	7	1	1	1	7	7	,			-		 		
Sam obe located at	Zone Pressure ( )	DIG 39	06 HL 1	153.55	134.13	125.43	108 37	89.83								
ď,	Shoe Out	7	7	1	1	1	1	1								
	Pressure in Westbay (	209.33	174.88	153,11	133.52	134.94	107.65	19:18								
	Land		>	7	>	7	1	1								
Position Sampler	Arm Out	7	)	7	1	1	1	1								
	Locate	1		7	7	7	7	1	-							
	Close Valve	1	\	7	1	1	1	1								
	Apply	7	\	7	1	1	2	1								
tion Tests Ing collar	Open	1	1	1	1	1	1	1								
Surface Function Tests (probe in flushing collar)	Check	1	1	1	1	1	1	1								
ns Dud)	Close	1	5	7	1	7	1	1							-	
	Shoe Out	1	8	1	7	1	7	7								
.ol	A nu.R N	_	-			_		_								
.01	4 hoq		C	60	7	5	5	-				-			-	

Alamasa) 0.3 PT TOC (4") Stuel) 32 15 ft 70c (2.)

## Old Roosevelt Field Remedial Design Multiport Well Water Quality Parameters Well No. SVP-10

				_				_	_		_	_		_			_
Turbidity (NTU)	66.9	0.58	0.95	6.19	680	000	0.51										
Temperature (°C)	19.32	1736	15,91	16.85	15.77	16.65	17.15										
ORP (mV)	0.1181	215.5	S'Lhe	256.5	234.1	251.6	237.3										
Dissolved Oxygen (mg/L)	8.09	10.67	10.85	10.46	10.34	10.09	11.23										
Specific Conductivity (mS/cm <sup>5</sup> )	09510	880.0	HL6'9	0.362	0.371	0.338	0 814										
Нф	98.9	5.34	5.08	5.21	508	4.35	5.01										
Port	1	ત	iv	7	5	9	1										
Time	51771	1366	1312	1323	1337	1347	1357										

## Acronyms:

°C - degrees Celsius mg/L - milligrams per Liter mS/cmc - milli-Siemens per centimeter NTU - nephrolometric turbidity unit OLD ROOSEVELT FIELD MALL
LOW FLOW GROUNDWATER SAMPLING PURGE RECORD

And 24-61 m

DATE: MONCH 24, 2013 SAMPLERS: NES

WEATHER CONDITIONS: SYNWY & MILES

CLP ID: MA

WELL#: MW 1I

SCREENED/OPEN BOREHOLE INTERVAL # TIC or # BGS (circle one) SCREENED/OPEN BOREHOLE INTERVAL # TIC or # BGS (circle one) SAMPLE TIME:  $\mathcal{G}_{30}$  SAMPLE FLOW RATE:

Instrument: **TURBIDITY** 12000 REDOX POTENTIAL (± 10 mV) <u>ء</u> (circle one) (± 10%) TEMP. လ ကျန်း DISSOLVED YSI Model # SKC MON Horiba U-22 mg/L **(not %**)  $(\pm 10\%)$ S/cm, mS/cm<sup>c</sup>/ or µS/cm (circle one) SPECIFIC CONDUCTIVITY (± 3%) Other (specify) (± 0.1 SU) 된 SU ft TIC / ft BGS (circle one) DRAWDOWN  $(\pm 0.3 FT)$ Complete and/or Circle at right Instrument Type/Model: FLOW RATE Units: (circle one) Units: ft bgs or TIC (circle one) gallons / liters | ft TIC/ | tt BGS (circle one) 124m **DEPTH TO** WATER **©** PURGED CURRENT 24-Hour

14641

ナング

0

0,703 50

11 71

5.79

300

3

8

2495

333

Co 1/4/4

101

Drawdown is not to exceed 0.3 feet. Flow rate should not exceed 500 ml/min during purging or 250 ml/min during sampling. Readings should be taken every three to five minutes. The well is considered stabilized and ready for sampling when the indicator parameters have stabilized for three consecutive readings by the measurements indicated in parenthesis.

DO = 0.3 - 10 mg/LSpec. Conductivity ( $\mu$ S/cm) = 0.01 - 5,000; up to 10,000 in industrial, ~55,000 in high salt content water. Note: 1,000  $\mu$ S/cm = 1 mS/cm Typical values

TIC = Top of Inner Casing BGS = Below Ground Surface

**LOW FLOW GROUNDWATER SAMPLING PURGE RECORD** OLD ROOSEVELT FIELD MALL

10:0999

DATE: MARCH 28, 2013

SAMPLERS: TOTAL

WEATHER CONDITIONS: SVIVING & MLD SAMPLE ID: MW-15/RACI-2013

CLP ID:

WELL#: MW 25

SCREENED/OPEN BOREHOLE INTERVAL IT TIC of It BGS (circle one) SAMPLE TIME: (1705 SAMPLE FLOW RATE: 32 Minimute

instrument: 41000 (circle one) / Horiba U-22 Other (specify) YSi Model # Complete and/or Circle at right Instrument Type/Model:

<u>2</u> *LURBIDITY* 3 (\*10%)NTUs POTENTIAL 1399 (± 10 mV) H17 REDOX 1 <u>ب</u> 14.78 かられ  $(\pm 10\%)$ TEMP. Units: DISSOLVED 5.87 5.83 03 621 5.57 A mg/L **(not %**) (± 10%) S/cm/mS/cm<sup>c</sup>/ or µS/cm/(circle one) SPECIFIC CONDUCTIVITY 732 234 0,203 0.183 (∓3%) かたた (± 0.1 SU) 듄 S ft TIC / ft BGS DRAWDOWN (circle one) (± 0.3 FT) 250 SS FLOW RATE Units: TIC (circle one) Units: ft bgs or ft TIC / ft BGS から ANDIA **DEPTH TO** (circle one) WATER gallons / liters f DURY VOLUME PURGED 200 CURRENT 35 B 3 S 24-Hour

Drawdown is not to exceed 0.3 feet. Flow rate should not exceed 500 ml/min during purging or 250 ml/min during sampling. Readings should be taken every three to five minutes. The well is considered stabilized and ready for sampling when the indicator parameters have stabilized for three consecutive readings by the measurements indicated in parenthesis.

DO = 0.3 - 10 mg/L.

Turbidity = 0 - 500 NTUs Spec. Conductivity ( $\mu$ S/cm) = 0.01 - 5,000; up to 10,000 in industrial, ~55,000 in high salt content water. Note: 1,000  $\mu$ S/cm = 1 mS/cm

TIC = Top of Inner Casing BGS = Below Ground Surface

Typical values

## OLD ROOSEVELT FIELD MALL LOW FLOW GROUNDWATER SAMPLING PURGE RECORD

fro: O Mrs

DATE: MARCH 27, 2013

SAMPLERS: WE

WEATHER CONDITIONS: SULLY / 1/10 SAMPLE ID: GUX-10019/02011-2013

CLP ID: NA

WELL #: GLUX-IDVIG

DEPTH OF PUMP INTAKE:  $\sim \mathcal{PP}$ 

# TIC of # BGS (circle one) SCREENED/OPEN BOREHOLE INTERVAL IT TIC OK IT BGS (circle one) SAMPLE TIME:  $\mathcal{L}_{S}\mathcal{L}_{S}$  SAMPLE FLOW RATE:  $\mathcal{L}_{S}\mathcal{L}_{S}$  muminute

Instrument Type/Model:

Instrument: (circle one) / Horiba U-22 556 YSI Model #\_\_\_Other (specify) Complete and/or Circle at right

		complete and of of the at right	ו סוו כוכ מו	13116	Orner (apeciny)					(AMORINE)
CURRENT	VOLUME	DEPTH TO WATER	FLOW RATE	DRAWDOWN pH	pH SPECI COND (± 0.1 SU) (± 3%)	SPECIFIC CONDUCTIVITY (± 3%)	DISSOLVED OXYGEN (± 10%)	TEMP. (± 10%)	TEMP. REDOX POTENTIAL (± 10%) (± 10 mV)	TURBIDITY (± 10%)
24-Hour	gallons / liters(	gallons / liters (t TIC) / tt BGS (circle one) Units: ft bgs or TIC (circle one)	Units:	/ft BGS one)	n's	nS/cm³/ or (circle one)	mg/L	Units:		NTUs
175	CEBN/ KM	BING B	JUNE COR	, July	75/ 2 W 2/	/ 100				
astil		78.2%	255	CALOUS!	157.65	0.608	0.88	15.68	15.65-145.2	28
9051		28.86	388	1	75.t	0.628	0.59	\$. \ <u>\</u>	2.481-	5.08
1210		28.5%	2cD		7.50	0.633	Dities.	人出入	1.64.	4.31
1512		25 66	ast,		プジゲ	0,638	4.0	th'S1	1462	4.5/
Ž			>		7.55	6.634.	44.0	15.22	7.691-	かかか
KK KK	(20119	Santile			,	ļ	,			

Drawdown is not to exceed 0.3 feet. Flow rate should not exceed 500 ml/min during purging or 250 ml/min during sampling. Readings should be taken every three to five minutes. The well is considered stabilized and ready for sampling when the indicator parameters have stabilized for three consecutive readings by the measurements indicated in parenthesis.

TIC = Top of Inner Casing BGS = Below Ground Surface

Typical values

DO = 0.3 - 10 mg/LSpec. Conductivity (µS/cm) = 0.01 - 5,000; up to 10,000 in industrial, ~55,000 in high salt content water. Note: 1,000 µS/cm = 1 mS/cm

ATTACHMENT 6 CHAIN-OF-CUSTODY DOCUMENTS

Page 1 of 2

USEPA CLP Organics COC (REGION COPY)

USEPA CLP Organics COC (Rt DateShipped: 3/27/2013

CarrierName: FedEx AirbillNo: 801390789914

Old Roosevelt Field

CHAIN OF CUSTODY RECORD

Cooler#: 1 of 1

No: 2-032713-162910-0001 Lab: DESA Lab Contact. John Birri

Lab Phone: (732) 906-6886

Inorganic Sample Type Sample #	Field Sample	Field Blank	Field Sample	Field Sample	Field Sample	Field Sample	Field Duplicate	Field Sample	Field Sample	Field Sample
Collected Inorg	03/27/2013 15:25	03/27/2013 09:00	03/27/2013 12:45	03/27/2013 13:00	03/27/2013 13:12	03/27/2013 13:23	03/27/2013 11:05	03/27/2013 13:37	03/27/2013 13:47	03/27/2013 13:57
Station Location	GWX- 10019/RAQ1- 2013	FB-032713	SVP-10- 1/RAQ1-2013	SVP-10- 2/RAQ1-2013	SVP-10- 3/RAQ1-2013	SVP-10- 4/RAQ1-2013	SVP-104- 5/RAQ1-2013	SVP-10- 5/RAQ1-2013	SVP-10- 6/RAQ1-2013	SVP-10- 7/RAQ1-2013
Tag/Preservative/Bottles	1211 (HC!) (3)	1214 (HCI) (3)	1216 (HCI) (3)	1217 (HCI) (3)	1218 (HCI) (3)	1219 (HCI) (3)	1220 (HCI) (3)	1221 (HCI) (3)	1222 (HCI) (3)	1223 (HCI) (3)
Anafysis/Turnaround	TCL TVOC(7)	TCL TVOC(7)	TCL TVOC(7)	TCL TVOC(7)	TCL TVOC(7)	TCL TVOC(7)	TCL TVOC(7)	TCL TVOC(7)	TCL TVOC(7)	TCL TVOC(7)
Coll. Method	Grab	Grab	Grab	Grab	Grab	Grab	Grab	Grab	Grab	Grab
Matrix/Sampler	Groundwater/ Michael Ehnot	Blank/ Michael Ehnot	Groundwater/ Michael Ehnot							
Organic Sample #	BA321	BA324	BA326	BA327	BA328	BA329	BA330	BA331	BA332	BA333

Special Instructions: Please disregard tag numbers/letters.

Shipment for Case Complete? Y Samples Transferred From Chain of Custody #

Analysis Key: TCL TVOC=TCL Trace VOCs

Time			0	
Date				
Received by				
Date				
Relinquished By				
Items/Reason				
Time				
Date				
Received by				
Date	3/20/13	1 1		
Relinquished by	Westert			
Items/Reason	17-SAMPLES			

Page 2 of 2

USEPA CLP Organics COC (REGION COPY)

DateShipped: 3/27/2013

CarrierName: FedEx

AirbillNo: 801390789914

CHAIN OF CUSTODY RECORD

Old Roosevelt Field

Cooler #: 1 of 1

Lab: DESA

No: 2-032713-162910-0001

Lab Phone: (732) 906-6886 Lab Contact John Birri

Organic Sample #	Matrix/Sampler	Coll. Method	Analysis/Turnaround	Tag/Preservative/Bottles	Station Location	Collected	Inorganic Sample #	Sample Type
BA334	Groundwater/ Michael Ehnot	Grab	TCL TVOC(7)	1224 (HCI) (3)	SVP-4-2/RAQ1- 2013	03/27/2013 10:22		Field Sample
BA335	Groundwater/ Michael Ehnot	Grab	TCL TVOC(7)	1225 (HCI) (3)	SVP-4-3/RAQ1- 2013	03/27/2013 10:35		Field Sample
BA336	Groundwater/ Michael Ehnot	Grab	TCL TVOC(7)	1226 (HCI) (3)	SVP-4-4/RAQ1- 2013	03/27/2013 10:50		Field Sample
BA337	Groundwater/ Michael Ehnot	Grab	TCL TVOC(7)	1227 (HCI) (3)	SVP-4-5/RAQ1- 2013	03/27/2013 11:05		Field Duplicate
BA338	Groundwater/ Michael Ehnot	Grab	TCL TVOC(7)	1228 (HCI) (3)	SVP-4-6/RAQ1- 2013	03/27/2013 11:17		Field Sample
BA339	Groundwater/ Michael Ehnot	Grab	TCL TV0C(7)	1229 (HCI) (3)	SVP-4-7/RAQ1- 2013	03/27/2013 11:30		Field Sample
BA340	Blank/ Michael Ehnot	Grab	TCL TV0C(7)	1231 (HCI) (3)	TB032713	03/27/2013 08:15		Trip Blank

	Shipment for Case Complete? Y
Special Instructions: Please disregard tag numbers/letters.	Samples Transferred From Chain of Custody #
	0
Analysis Key. TCL TVOC=TCL Trace VOCs	

Time		
Date Time		
Received by		
Date		
Relinquished By Date		
Items/Reason		
Time		
Date		
Received by		
Date	3/04/13	
Relinquished by	Marin	
Items/Reason	17 SAMPLES-	

Page 1 of 1

USEPA CLP Organics COC (REGION COPY)

DateShipped: 3/28/2013

CarrierName: FedEx AirbillNo: 801390789877

Cooler #: 1 of 1

CHAIN OF CUSTODY RECORD

Old Roosevelt Field

Lab: DESA

No: 2-032813-160500-0033

Lab Contact: John Birri

Lab Phone: (732) 906-6886

Sample Type	Field Sample	Field Sample	Field Blank	Trip Blank			
Inorganic Sample #							
Collected	03/28/2013 09:30	03/28/2013 12:05	03/28/2013 08:30	03/28/2013 08:25			
Station Location	MW-011/RAQ1- 2013	MW-01S/RAQ1- 2013	FB-032813	18032813			
Tag/Preservative/Bottles	1212 (HCI) (3)	1213 (HCI) (3)	1215 (HCI) (3)	1232 (HCI) (3)			
Analysis∕Turnaround	TCL TVOC(7)	TCL TVOC(7)	TCL TVOC(7)	(/)			
Coll. Method	Grab	Grab	Grab	Grab	-		
Matrix/Sampler	Groundwater/ Michael Ehnot	Groundwater/ Michael Ehnot	Blank/ Michael Ehnot	Blank Michael Ehnot			
Organic Sample #	BA322	BA323	BA325	0A341			

Special Instructions: Please disregard tag numbers/letters.

Samples Transferred From Chain of Custody #

Shipment for Case Complete? Y

Analysis Key: TCL TVOC=TCL Trace VOCs

Time		
Date		
Received by		
Date		
Items/Reason Relinquished By		
Time		
Date		
Received by		
Chate	3/00/12	
Relinquished by	July 1	
Items/Reason	HSAMPLES	

ATTACHMENT 7 PHOTOGRAPHIC LOG

### **PHOTOLOG**

SITE NAME:	Old Roosevelt Field	
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CAMERA#	Kodak Easy Share C913	

Photograph #	Description	Date/Time	Photographer
1	Water IDW Tank Removal	3/28/13	MJE
2	Compacting Roadway (View South)	3/28/13	MJE
3	Removing RCA & Fabric (View West)	3/28/13	MJE
4	Roadway to Well Pad (View West)	3/28/13	MJE
5	Compacting Roadway (View East)	3/28/13	MJE
6	Topsoil Delivery	4/4/13	MJE
7	Grading Topsoil	4/4/13	MJE
8	Raking Topsoil	4/4/13	MJE
9	Southern Extraction Wells	4/4/13	MJE
10	Roadway Completion	4/4/13	MJE



Photo 1: Water IDW Tank Removal



Photo 2: Removing RCA & Fabric (View West)



Photo 3: Compacting Roadway (View South)



Photo 4: Roadway to well Pad (View West)



Photo 5: Compacted Roadway (View East)



Photo 6: Topsoil Delivery



Photo 7: Grading Topsoil



Photo 8: Raking Topsoil



Photo 9: Southern Extraction Wells (View West)



Photo 10: Roadway Completion (View West)